1, 1, 2, 3, 5, 8, 13, 21, 34, 55, ...

	0	1	2	3	4	5	6	7	8
fib	1	1							

	0	1	2	3	4	5	6	7	8
fi b	1	1	2						

					4	6	7	8
fib	1	1	2	3				

							8
fi b	1	1	2	3	5		

							7	8
fi b	1	1	2	3	5	8		

```
    0
    1
    2
    3
    4
    5
    6
    7
    8

    fib
    1
    1
    1
    1
    1
```

```
fib[0] = 1;
fib[1] = 1;
```

```
    0
    1
    2
    3
    4
    5
    6
    7
    8

    fib
    1
    1
    1
    1
    1
```

```
fib[0] = 1;
fib[1] = 1;
```

```
fib[0] = 1;
fib[1] = 1;
```

```
fib[0] = 1;
fib[1] = 1;
```

```
fib \begin{bmatrix} 1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 \\ 1 & 1 & 2 & 3 & 5 & 8 & & & & \end{bmatrix}

fib[0] = 1;

fib[1] = 1;

fib[2] = fib[0] + fib[1];

fib[3] = fib[1] + fib[2];

fib[4] = fib[2] + fib[3];

fib[5] = fib[3] + fib[4];
```

```
fib 1 2 3 4 5 6 7 8
fib[0] = 1;
fib[1] = 1;
fib[2] = fib[0] + fib[1];
fib[3] = fib[1] + fib[2];
fib[4] = fib[2] + fib[3];
fib[5] = fib[3] + fib[4];
: : :
```

```
fib[0] = 1;
fib[1] = 1;
fib[2] = fib[0] + fib[1];
fib[3] = fib[1] + fib[2];
fib[4] = fib[2] + fib[3];
fib[5] = fib[3] + fib[4];
```

```
fib[0] = 1;
fib[1] = 1;
for( int i = ; ; )
```

```
fib[0] = 1;
fib[1] = 1;
fib[2] = fib[0] + fib[1];
fib[3] = fib[1] + fib[2];
fib[4] = fib[2] + fib[3];
fib[5] = fib[3] + fib[4];
```

```
fib[0] = 1;
fib[1] = 1;
for(int i = ; ; )
fib[i] = + ;
```

```
fib[0] = 1;
fib[1] = 1;
fib[2] = fib[0] + fib[1];
fib[3] = fib[1] + fib[2];
fib[4] = fib[2] + fib[3];
fib[5] = fib[3] + fib[4];
```

```
fib[0] = 1;
fib[1] = 1;
for(int i = ; ; )
fib[i] = fib[i-2] + fib[i-1];
```

```
fib[0] = 1;
fib[1] = 1;
fib[2] = fib[0] + fib[1];
fib[3] = fib[1] + fib[2];
fib[4] = fib[2] + fib[3];
fib[5] = fib[3] + fib[4];
```

```
fib[0] = 1;
fib[1] = 1;
for( int i = 2; i < num; i++ )
  fib[i] = fib[i-2] + fib[i-1];</pre>
```

```
fib[ 0 ] = 1;
fib[ 1 ] = 1;
for( int i{ 2 }; i < number; i++ )
  fib[ i ] = fib[ i - 2 ] + fib[ i - 1 ];</pre>
```

```
fib[ 0 ] = 1;
fib[ 1 ] = 1;
for( int i{ 2 }; i < number; i++ )
  fib[ i ] = fib[ i - 2 ] + fib[ i - 1 ];</pre>
```

```
fib[ 0 ] = 1;
fib[ 1 ] = 1;
for( int i{ 2 }; i < number; i++ )
  fib[ i ] = fib[ i - 2 ] + fib[ i - 1 ];</pre>
```

```
fib[ 0 ] = 1;
fib[ 1 ] = 1;
for( int i{ 2 }; i < number; i++ )
  fib[ i ] = fib[ i - 2 ] + fib[ i - 1 ];</pre>
```

```
fib[ 0 ] = 1;
fib[ 1 ] = 1;
for( int i{ 2 }; i < number; i++ )
  fib[ i ] = fib[ i - 2 ] + fib[ i - 1 ];</pre>
```

```
int main()
   int number;
   int fib[ 1000 ];
   cout << "Enter a positive integer ( 2 - 46 ): ";</pre>
   cin >> number;
   fib[0] = 1;
   fib[1] = 1;
   for( int i{ 2 }; i < number; i++ )</pre>
      fib[i] = fib[i - 2] + fib[i - 1];
   for( int i{ 0 }; i < number; i++ )</pre>
      cout << fib[ i ] << endl;</pre>
   cout << endl;
```

Don't use arrays

```
int n1{ 1 };
int n2{ 1 };
int n3{ 2 };
cout << n1 << endl;
cout << n2 << endl;
cout << n3 << endl;</pre>
```

		0012FF18
	4.0	0012FF19
num	46	0012FF1A
		0012FF1B
		0012FF1C
n1	1	0012FF1D
		0012FF1E
		0012FF1F
		0012FF20
n2	1	0012FF21
112		0012FF22
		0012FF23
		0012FF2C
n3	2	0012FF2D
		0012FF2E
		0012FF2F

```
int n1{ 1 };
int n2{ 1 };
int n3{ 2 };
cout << n1 << endl;
cout << n2 << endl;
cout << n3 << endl;
n1 = n2;
n2 = n3;
n3 = n1 + n2;
cout << n3 << endl;</pre>
```

		_
		0012FF18
	4.0	0012FF19
num	46	0012FF1A
		0012FF1B
		0012FF1C
n1	1	0012FF1D
		0012FF1E
		0012FF1F
		0012FF20
0	1	0012FF21
n2		0012FF22
		0012FF23
n3		0012FF2C
	2	0012FF2D
		0012FF2E
		0012FF2F

```
int n1{ 1 };
int n2{ 1 };
int n3{ 2 };
cout << n1 << endl;
cout << n2 << endl;
cout << n3 << endl;
n1 = n2;
n2 = n3;
n3 = n1 + n2;
cout << n3 << endl;</pre>
```

		_
		0012FF18
	4.0	0012FF19
num	46	0012FF1A
		0012FF1B
		0012FF1C
n1	1	0012FF1D
		0012FF1E
		0012FF1F
		0012FF20
0	2	0012FF21
n2		0012FF22
		0012FF23
		0012FF2C
n3	0	0012FF2D
	2	0012FF2E
		0012FF2F

```
int n1{ 1 };
int n2{ 1 };
int n3{ 2 };
cout << n1 << endl;
cout << n2 << endl;
cout << n3 << endl;
n1 = n2;
n2 = n3;
n3 = n1 + n2;
cout << n3 << endl;</pre>
```

		_
		0012FF18
	4.0	0012FF19
num	46	0012FF1A
		0012FF1B
		0012FF1C
n1	1	0012FF1D
		0012FF1E
		0012FF1F
		0012FF20
O	2	0012FF21
n2		0012FF22
		0012FF23
n3		0012FF2C
	3	0012FF2D
		0012FF2E
		0012FF2F

```
0012FF19
                                                46
                                          num
                                                     0012FF1A
int n1{ 1 };
                                                     0012FF1B
int n2{ 1 };
                                                     0012FF1C
int n3{ 2 };
cout << n1 << endl;
                                                     0012FF1D
                                           n1
cout << n2 << endl;
                                                     0012FF1E
cout << n3 << endl;
                                                     0012FF1F
n1 = n2;
                                                     0012FF20
n2 = n3;
                                                     0012FF21
                                           n2
n3 = n1 + n2;
                                                     0012FF22
cout << n3 << endl;
                                                     0012FF23
n1 = n2;
                                                     0012FF2C
n2 = n3;
                                                     0012FF2D
n3 = n1 + n2;
                                           n3
                                                     0012FF2E
cout << n3 << endl;
                                                     0012FF2F
```

```
0012FF19
                                                46
                                          num
                                                     0012FF1A
int n1{ 1 };
                                                     0012FF1B
int n2{ 1 };
                                                     0012FF1C
int n3{ 2 };
cout << n1 << endl;
                                                     0012FF1D
                                           n1
cout << n2 << endl;
                                                     0012FF1E
cout << n3 << endl;
                                                     0012FF1F
n1 = n2;
                                                     0012FF20
n2 = n3;
                                                     0012FF21
                                           n2
n3 = n1 + n2;
                                                     0012FF22
cout << n3 << endl;
                                                     0012FF23
n1 = n2;
                                                     0012FF2C
n2 = n3;
                                                     0012FF2D
n3 = n1 + n2;
                                           n3
                                                     0012FF2E
cout << n3 << endl;
                                                     0012FF2F
```

```
0012FF19
                                                46
                                          num
                                                     0012FF1A
int n1{ 1 };
                                                     0012FF1B
int n2{ 1 };
                                                     0012FF1C
int n3{ 2 };
cout << n1 << endl;
                                                     0012FF1D
                                           n1
cout << n2 << endl;
                                                     0012FF1E
cout << n3 << endl;
                                                     0012FF1F
n1 = n2;
                                                     0012FF20
n2 = n3;
                                                     0012FF21
                                           n2
n3 = n1 + n2;
                                                     0012FF22
cout << n3 << endl;
                                                     0012FF23
n1 = n2;
                                                     0012FF2C
n2 = n3;
                                                     0012FF2D
n3 = n1 + n2;
                                           n3
                                                     0012FF2E
cout << n3 << endl;
                                                     0012FF2F
```

```
0012FF19
                                                46
                                          num
                                                     0012FF1A
int n1{ 1 };
                                                     0012FF1B
int n2{ 1 };
                                                     0012FF1C
int n3{ 2 };
cout << n1 << endl;
                                                     0012FF1D
                                           n1
cout << n2 << endl;
                                                     0012FF1E
cout << n3 << endl;
                                                     0012FF1F
n1 = n2;
                                                     0012FF20
n2 = n3;
                                                     0012FF21
                                           n2
n3 = n1 + n2;
                                                     0012FF22
cout << n3 << endl;
                                                     0012FF23
n1 = n2;
                                                     0012FF2C
n2 = n3;
                                                     0012FF2D
n3 = n1 + n2;
                                           n3
                                                     0012FF2E
cout << n3 << endl;
                                                     0012FF2F
```

```
i
                                                        0012FF1A
int number;
                                                        0012FF1B
int n1{ 1 };
int n2{ 1 };
                                                        0012FF1C
int n3{ 2 };
                                                        0012FF1D
cin >> number;
                                              n1
cout << n1 << endl;
                                                        0012FF1E
cout << n2 << endl;
                                                        0012FF1F
cout << n3 << endl:
                                                        0012FF20
for( int i { 4 }; i <= number; ++i )</pre>
                                                        0012FF21
                                              n2
   n1 = n2;
                                                        0012FF22
   n2 = n3;
                                                        0012FF23
   n3 = n1 + n2;
   cout << n3 << endl;
                                                        0012FF2C
                                                        0012FF2D
                                                   2
                                              n3
                                                        0012FF2E
                                                        0012FF2F
```

0012FF18

```
i
                                                        0012FF1A
int number;
                                                        0012FF1B
int n1{ 1 };
int n2{ 1 };
                                                        0012FF1C
int n3{ 2 };
                                                        0012FF1D
cin >> number;
                                              n1
cout << n1 << endl;
                                                        0012FF1E
cout << n2 << endl;
                                                        0012FF1F
cout << n3 << endl:
                                                        0012FF20
for( int i { 4 }; i <= number; ++i )</pre>
                                                        0012FF21
                                              n2
   n1 = n2;
                                                        0012FF22
   n2 = n3;
                                                        0012FF23
   n3 = n1 + n2;
   cout << n3 << endl;
                                                        0012FF2C
                                                        0012FF2D
                                              n3
                                                        0012FF2E
                                                        0012FF2F
```

0012FF18

```
i
                                                        0012FF1A
int number;
                                                        0012FF1B
int n1{ 1 };
int n2{ 1 };
                                                        0012FF1C
int n3{ 2 };
                                                        0012FF1D
cin >> number;
                                              n1
cout << n1 << endl;
                                                        0012FF1E
cout << n2 << endl;
                                                        0012FF1F
cout << n3 << endl:
                                                        0012FF20
for( int i { 4 }; i <= number; ++i )</pre>
                                                        0012FF21
                                              n2
   n1 = n2;
                                                        0012FF22
   n2 = n3;
                                                        0012FF23
   n3 = n1 + n2;
   cout << n3 << endl;
                                                        0012FF2C
                                                        0012FF2D
                                              n3
                                                        0012FF2E
                                                        0012FF2F
```

0012FF18

```
0012FF19
                                               i
                                                   5
                                                        0012FF1A
int number;
                                                        0012FF1B
int n1{ 1 };
int n2{ 1 };
                                                        0012FF1C
int n3{ 2 };
                                                        0012FF1D
cin >> number;
                                              n1
cout << n1 << endl;
                                                        0012FF1E
cout << n2 << endl;
                                                        0012FF1F
cout << n3 << endl:
                                                        0012FF20
for( int i { 4 }; i <= number; ++i )</pre>
                                                        0012FF21
                                              n2
   n1 = n2;
                                                        0012FF22
   n2 = n3;
                                                        0012FF23
   n3 = n1 + n2;
   cout << n3 << endl;
                                                        0012FF2C
                                                        0012FF2D
                                              n3
                                                        0012FF2E
                                                        0012FF2F
```

```
0012FF19
                                               i
                                                   5
                                                        0012FF1A
int number;
                                                        0012FF1B
int n1{ 1 };
int n2{ 1 };
                                                        0012FF1C
int n3{ 2 };
                                                        0012FF1D
cin >> number;
                                              n1
cout << n1 << endl;
                                                        0012FF1E
cout << n2 << endl;
                                                        0012FF1F
cout << n3 << endl:
                                                        0012FF20
for( int i{ 4 }; i <= number; ++i )</pre>
                                                        0012FF21
                                              n2
   n1 = n2;
                                                        0012FF22
   n2 = n3;
                                                        0012FF23
   n3 = n1 + n2;
   cout << n3 << endl;
                                                        0012FF2C
                                                        0012FF2D
                                              n3
                                                        0012FF2E
                                                        0012FF2F
```

```
0012FF19
                                               i
                                                   5
                                                        0012FF1A
int number:
                                                        0012FF1B
int n1{ 1 };
int n2{ 1 };
                                                        0012FF1C
int n3{ 2 };
                                                        0012FF1D
cin >> number;
                                              n1
cout << n1 << endl;
                                                        0012FF1E
cout << n2 << endl;
                                                        0012FF1F
cout << n3 << endl:
                                                        0012FF20
for( int i{ 4 }; i <= number; ++i )</pre>
                                                        0012FF21
                                              n2
   n1 = n2;
                                                        0012FF22
   n2 = n3;
                                                        0012FF23
   n3 = n1 + n2;
   cout << n3 << endl;
                                                        0012FF2C
                                                        0012FF2D
                                              n3
                                                        0012FF2E
                                                        0012FF2F
```

```
0012FF19
                                               i
                                                   5
                                                        0012FF1A
int number;
                                                        0012FF1B
int n1{ 1 };
int n2{ 1 };
                                                        0012FF1C
int n3{ 2 };
                                                        0012FF1D
cin >> number;
                                              n1
cout << n1 << endl;
                                                        0012FF1E
cout << n2 << endl;
                                                        0012FF1F
cout << n3 << endl:
                                                        0012FF20
for( int i{ 4 }; i <= number; ++i )</pre>
                                                        0012FF21
                                              n2
   n1 = n2;
                                                        0012FF22
   n2 = n3;
                                                        0012FF23
   n3 = n1 + n2;
   cout << n3 << endl;
                                                        0012FF2C
                                                        0012FF2D
                                                   5
                                              n3
                                                        0012FF2E
                                                        0012FF2F
```

```
int main()
   int number;
   int n1{ 1 };
   int n2{ 1 };
   int n3{ 2 };
   cout << "Enter a positive number ( 1 - 46 ): ";</pre>
   cin >> number:
   cout << endl;
   cout << n1 << endl:
   cout << n2 << endl;
   cout << n3 << endl:
   for( int i{ 4 }; i <= number; ++i )</pre>
      n1 = n2;
      n2 = n3;
      n3 = n1 + n2;
      cout << n3 << endl;
```